## User manual for RATS SE550 MK3 Transceiver

### **General Notes**

Originally designed for use in a trunk radio system, the units supplied by the Rugby Amateur Transmitting Society are supplied programmed and tuned to work in the 4m (70MHz) amateur radio band.

The MK3 version has a new system EPROM giving greater functionality than previous versions supplied by the RATS.

This documentation is a brief getting started guide to the equipment; further information (circuit diagrams, service information etc.) Is available via the clubs web site: http://www.rugby-ats.co.uk/ or alternatively via http://www.blob.demon.co.uk

#### **Specification**

Frequency range 68-88 MHz

Direct frequency entry and 7 banks of 100 user programmable

channels.

Channel spacing 12.5KHz

Mode PM/FM (selectable)

Antenna BNC  $50\Omega$ 

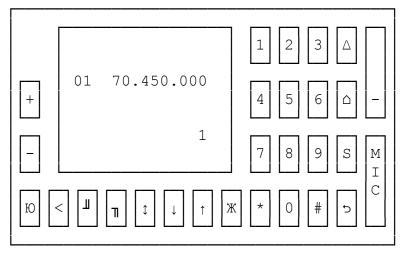
TX Power 25W (adjustable)

Deviation 2.5 KHz

DC Power Nominal 13.2V (10.8-15.6V) (RX approx 1A, TX 6.5A/25W)

N.B. No DTMF, 5-TVO or CTCSS functions are implemented in the versions of the transceivers supplied by the RATS

## **Keypad and Display Overview**



When switching on the transceiver, the selected frequency or channel will be shown at the upper line of the display. The selected memory bank is indicated at the right of the second line.

To use the second function of the keys, press the 5 button. The text 'Second Function' will appear on the second line of the display. Now the second function of the next key will be activated. To go back to the normal situation, press 5 again.

#### Main Functions:

Key	Function:
Ю	On/Off. A SHORT press to switch on, otherwise it will switch straight off again!
+	Increase volume.
-	Decrease volume.
0-9	To enter a Channel, frequency or number.
<	Squelch open/close
П	Step 1MHz or 10 channels down
П	Step 1MHz or 10 channels up
<b>‡</b>	Select memory bank.
$\downarrow$	Scroll down frequency, channel or menu item.
<b>↑</b>	Scroll up frequency, channel or menu item.
Ж	Exit sub-menus for second function 4.
*	Scan (VFO or channels in current memory bank).
#	Reverse shift.
Δ	Go to call-channel.
S	Switch between VFO and Memory.
Δ	Tone squelch On/Off – (Not applicable).
5	Choose second function of next key. Select sub-menus for second function 4.

# Second Function (after 5)

Keys:	Function:						
	Change transmitter power.						
	The power can be adjusted with ↓ and ↑ . keys. The display indicates the						
	selected power level.						
1	25W						
•	12.5W						
	- 2.5W						
	2W						
	Change squelch level. The sensitivity can be adjusted with the with ↓ and						
	↑ . keys. The display indicates the selected squelch and sensitivity level.						
2	Maximum sensitivity.						
_	- Squelch level increase.						
	Receiver sensitivity reduction.						
	Receiver sensitivity reduction and squelch level increase.						
3	Choose CTCSS tone (TQ) – (Not applicable).						
4	Activate MENU						
	Lots of options						
5	Activate status menu.						
6	Show name of memory channel.						
8	Choose channel spacing.						
*	Select required channel spacing with ↓ and ↑ . keys.						
0	Don't scan this memory channel.						
#	Call with 5-TVO – (Not applicable).						
Δ	Select Repeater shift + / - / none.  Change tone squalch gode (Not. Applicable)						
Δ	Choose tone-squelch code (Not Applicable).  Delete/store call channel.						
	Delete/store memory channel. 7 banks of 100 channels can be programmed.						
S	Select channel bank with $\updownarrow$ .						
	·						
	Select channel numbers with ↓ and ↑ . keys.						

## **Connections**

## Power & Loudspeaker (15 way D on back panel)

N.B. An adaptor with power and loudspeaker connections is normally supplied.

Pin	Use
1	+VE power
2	+VE power
3	Loudspeaker +ve $4\Omega$
4	
5	
6	AF Earpiece $600\Omega$
7	GROUND
8	GROUND
9	Ground for 10dB RF Power reduction (use resistor for variable power)
10	Loudspeaker -ve $4\Omega$
11	PTT active=L – ground to TX. (approx 0,5mA at 5V)
12	AF in 600mv
13	
14	+9V out
15	Microphone 100mv

## **Code Plug Socket (upper front panel)**

·			1 /
Use	Pin	Pin	Use
	1	2	
	3	4	
	5	6	
Jumper to pin 8	7	8	Jumper to pin 7

A code plug (EEPROM) is not required for the units supplied by the Rugby Amateur Transmitting Society, but the rig will not power up without a jumper between the bottom two pins of this socket.

# Microphone (lower front panel)

Use
Microphone B~ 1mV
+9V
Earphone
General Ground

Pin	Pin
1	2
3	4
5	6
7	8

Use	
Not used	
PTT	
Microphone Ground	1
Earphone Ground	